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THE EMPLOYMENT EFFECTS OF IMMIGRATION:
A BALANCE SHEET APPROACH

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* The views contained in this paper are those of the author only and do not necessarily represent those of Employment and Immigration Canada.

Summary:

This paper explores the extent to which immigration is likely to exacerbate or relieve unemployment by using a "balance sheet" of 1983 and 1984 immigration in terms of an increase in the supply of and the demand for labour either through jobs created by immigrants or through their consumption of goods and services. It is concluded that, on balance, immigrants may create more employment than they take in Canada; and therefore, immigration should be seen in a more positive light in regard to its employment effects.

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T.J. Samuel

I. Introduction

Historically, immigration has played an important role in the development of Canada, especially in its economic growth. Nevertheless, this perception has been changing because of the recent levels of high unemployment that Canada has been experiencing. Naturally, this has led to the following question: What effect does immigration have on unemployment in Canada? The answer to this question has an important bearing on policy respecting the size and the skill composition of immigrant intake. This paper explores the extent to which immigration is likely to exacerbate or relieve unemployment by using a "balance sheet" approach of 1983 and 1984 immigration in terms of labour supply and demand.

Immigration is popularly perceived to be contributing to unemployment since it adds visibly to the supply of labour. The fact that it takes a few weeks or even months for immigrants to find their first jobs reinforces this perception.¹ Needless to say, the issues involved are more complex as immigration also contributes to the demand for labour both directly and indirectly - through a decrease in wage rates and an increase in demand for goods and services such as housing, consumer durables and for social capital.

II. The Results of Modelling

The economic impact of immigration has been studied using macroeconomic models which have examined primarily the effect of net immigration (immigration minus emigration) on GNP, per capita income, inflation, wage rates, and unemployment rates. Five studies have been conducted using macroeconomic models to measure the impact of immigration on the Canadian economy, and more specifically for the purposes of this paper, the effect on the unemployment rate.

Using three macroeconometric models, namely, CANDIDE, TRACE, and RXD2², Gordon Davies' (1976) measured the macroeconomic effects of differing levels of net immigration for the period 1961-74.³ All three models showed that increased immigration tends to yield higher unemployment rates.

Informetrica Ltd.⁴ of Ottawa (1978) also studied the macroeconomic effects of immigration for the period 1978-1985. Their simulations concluded that unemployment varied directly with increases in net immigration. As well, Rao (1980)⁵ using CANDIDE 2.0 for the period 1980-1990, arrived at a similar conclusion.

Rao's study came under criticism when it was pointed out "that an emigration of 50,000 per year (that is a net immigration of -50,000) to Canada would ... reduce the unemployment rate substantially as compared with the base case scenario. The simulation results indicate that the structure of the model predetermines a negative impact of immigration."⁶

William Marr ⁷, using Data Resources of Canada's quarterly forecasting model, investigated the impact of different levels of immigration on the Ontario labour market. This study, as compared to the others, did not predict rising unemployment with increased immigration.

Dwight Grant, Alice and Masao Nakamura looked into the macroeconomic impacts of immigration using the RDX2 econometric model. ⁸ This was the only macroeconomic study related to immigration which obtained and used "information on various aspects of behaviour of immigrants ... on the impacts of different immigration policies on the macroeconomy of Canada". ⁹ In other words, this study tried to make more realistic assumptions about the economic behaviour - consumption patterns, labour force participation and demand for government services - of immigrants and based their simulations on gross immigration and, thus, allowing emigration to be determined endogenously. This simulation exercise was for the period 1961 to 1974, by quarters. The results showed an "improvement in the unemployment rate with increases in immigration" ¹⁰.

It is evident from the above discussion that when modelling immigration, the effect on the unemployment rate depends heavily on the underlying assumptions of the model in question. The lack of empirical data on the economic behaviour of immigrants has made the macroeconomic modelling of the impact of immigration a difficult task.

The following is an analysis of the supply and demand side effects on the labour market using 1983-1984 immigration data. This analysis will provide an outline of the possible economic effects of immigration and, it is hoped, a reference for future modelling.

III. The Situation in Perspective: Supply Side

On the supply side, a total of 177,336 immigrants arrived in Canada during 1983 and 1984. Some of them, however, might have returned or re-migrated for a number of reasons. A longitudinal study of immigrants during 1969-74 found that within three years of their arrival in Canada, 20.2 per cent had returned or re-migrated¹¹. Six percent of the returning immigrants stayed only for six months or less¹² most likely due in part to a certain phenomenon called 'courier parents'.¹³ If it is assumed that (a) no less than 10 per cent of immigrants returned or re-migrated in 1983-84, and (b) the effect of mortality is negligible, out of 177,336 immigrants who came, about 18,000 were not in Canada by the end of 1984 thereby leaving a balance of about 160,000.

Only a certain proportion of immigrants intend to join the labour force which is often determined by age (too young or too old), family responsibilities, lack of familiarity with language or culture, lack of sufficient training and the like. In 1983-84, only 42.6 per cent of the immigrants were reported as intending to join the labour force. Applying this percentage to the 160,000 immigrants who came to Canada

in these years, the net addition to the labour force was about 68,000. In the short term, therefore, this was the labour force supply side effect of immigration for 1983-84.¹⁴

IV. The Situation in Perspective: Demand Side

On the demand side, with the stoppage on May 1, 1982 of recruiting independent immigrants without arranged employment, Canada Employment Centre validations are usually required to get selected workers to Canada. This process requires that employers seeking to hire foreign workers should have made every effort to find qualified Canadians or train them. The fact that such workers were not available in Canada indicates that there may have been 'bottlenecks' in the availability of certain types of skilled labour. In certain situations relieving such bottlenecks could result in the hiring of a number of other workers as well.

Out of 68,000 immigrants who intended to join the labour force among 1983-84 immigrants, there were over 12,950 who were selected for labour market related reasons leaving a balance of 55,050 immigrants to find employment. Unfortunately because of the lack of empirical evidence, it is not possible to measure the job creation aspect (bottleneck resolution effect) of this type of immigration and, consequently, its impact on the demand for labour.

Every year Canada takes a certain number of business immigrants - entrepreneurs and self-employed persons who have funds to invest in Canadian enterprises. During 1981, they numbered 1903, in 1982, 2040 in 1983, 1983 and in 1984, 1900. During 1983-84 these entrepreneurs and self-employed immigrants brought a total of \$1,544 million to Canada. According to estimates, the "minimum number of jobs created" by them during these years, including their own, adds up to about 12,900 - more than three jobs per business immigrant.

The number of jobs created by each business immigrant is likely to have been higher in the following years. As seen in a report from immigrant settlement officers, concerning the period 1950-1966, when no business immigration program per se existed, each immigrant enterprise provided employment for four persons.¹⁵ The Longitudinal Study of the Economic and Social Adaptation of Immigrants pointed out that the self-employed among the 1969 cohort of immigrants had, on an average, created six jobs within a period of three years.¹⁶ If the business immigrants who came with much more capital and business experience would at least do the same, they would create not less than 24,000 jobs by 1986 assuming a roughly similar economic environment.

It is most unlikely that these business immigrants hired only 1983-84 immigrants for the jobs they created. Nevertheless, the fact remains that these jobs presumably came into existence due to the

arrival of the business immigrants. If we assume that out of the 55,050 1983-84 immigrants requiring jobs 12,900 found employment created by business immigrants, this would roughly leave the need for 42,150 additional jobs.

The labour demand effect of immigration results primarily from the consumption effect of immigration which represents an area that is difficult to analyse and evaluate. An immigrant, whether he is employed or not, becomes a consumer the moment he enters Canada. In other words, their physical presence, and subsequent consumption, creates jobs for both immigrants and Canadian residents alike.

The magnitude of the consumption effect will depend on the propensity of immigrants to consume which is related to (a) the funds they brought with them (b) the financial assistance received from friends and relatives and (c) the assistance available from governments. In 1983-84, immigrants other than business immigrants brought with them \$1,857 million.¹⁷ This represents an average of \$17,841 per immigrant family. Family class immigrants may receive additional financial help from friends and relatives for consumption purposes. This may be in the form of either dissavings on the part of friends and relatives or reallocation of their pattern of consumption. If friends and relatives just re-allocate their consumption, there is no net addition to aggregate demand. A different multiplier effect will be felt, however, if the friends and relatives substitute non-domestic spending in order to assist the newcomers who may spend the money on domestic goods and services. It may be possible to

estimate the employment effects of the funds brought from abroad by immigrants, however, it is not possible to gauge the employment effects of transfers from friends and relatives due to lack of data.

One method of estimating the potential job creation effects of immigrants' consumption, is to consider the impact of the funds brought into Canada by immigrants, specifically, the \$1,857 million for 1983-84. Drawing from a study¹⁸ based on two different macro-economic models, the Medium Term Forecasting Model of the Conference Board and the FOCUS Model of the University of Toronto, it was estimated that an injection of an extra billion dollars into the economy, using a personal income tax cut, would create 56,000 jobs¹⁹ during the ensuing five years, or an average of over 11,000 jobs per year. Using the same ratio, if it is assumed that the pattern of additional consumption resulting from an income tax cut is not dissimilar from that of incoming immigrants, the \$1,857 million they brought with them may create about 104,000 jobs in five years or 20,800 jobs in each year.

Measurement of the consumption effect of any financial assistance received from friends, relatives, or governments can not be estimated due to the lack of empirical data.

Another method of estimating the employment generation effect of immigrant's consumption is through the use of a method developed by John Vanderkamp²⁰. Vanderkamp explored the effect of regional out-migration on employment opportunities using empirical data from a

cross-section of counties in Canada's Maritime Provinces. He hypothesized that "if an unemployed person leaves a labour surplus region he takes out with him the amount of his regional expenditure", ²¹ and "when the unemployed leave a labour surplus area they take these expenditures with them, which then through multiplier effects creates an increase in unemployment". ²² The study concluded: "For every five unemployed persons leaving the Maritime region two people become unemployed". ²³

It should be recognized that the size of the ratio above (5:2) may depend upon (a) whether the expenditures concerned were subsidized by the family or not and (b) import leakages (i.e. the extent of the expenditure being spent on articles brought in from outside the region) and (c) the size of the region. There was, however, no mention in the paper on the time frame within which the multiplier effect of consumption expenditure is supposed to take effect.

If one assumes, in the context of immigration, that the above ratio can be applied generally to Canada as a whole, one could reverse the ratio, so that for every five persons entering Canada, employed or not, would create employment for two people. But before applying this ratio to estimate the potential job creation effect of Canadian immigration, one must convert the total number of immigrants to 'adult' immigrants and adjust for return and re-migration.

The 0-14 age group among the newcomers of 1983-84 formed seventeen per cent of the total - about 27,200 of the 160,000 who remained in Canada. If the assumption is made that a member of the 0-14 age group is, in terms of consumption, equivalent to 1/2 an adult immigrant, the total number of 'adult' immigrants in 1983-84 was 146,400 (160,000 minus half of 27,200). The consumption effect of 146,400 adult immigrants should, therefore, be considered.

If the Vanderkamp job ratio is used, the presence of 1983-84 immigrants should have resulted in at least 58,560 new jobs in Canada (16,400 more jobs than required for 1983-84 immigrants). Combining both measurement techniques, we have estimated an employment effect in the range of 41,600 to 58,560 jobs as a result of increased consumption because of immigration.

A third way to examine the employment generation aspect of immigration is to see how aggregate demand, and consequently labour demand, is affected by (a) Government expenditures (b) Investment (c) Imports-exports and (d) Wage rates.

Immigrants use government facilities and services. As Louis Parai has outlined "migrant children must go to school, often adults require special language classes and immigrant workers may need to use government employment placement service to find a job. Immigrants also require hospital and medical care".²⁴

On the investment effect, the arrival of immigrants reduces the availability of capital per worker unless they bring with them the required capital to maintain the ratio of capital to labour. The presence of more labour via immigration, however, could generate more capital through more foreign borrowing as happened in Canada in the past.

Import-export balance in the country will be influenced by the differences in tastes between the residents and immigrants, export possibilities created by immigrants and the capital they bring in and remittances they make.

The reduction in the capital to labour ratio due to the influx of new immigrant workers will, in the absence of market constraints, put downward pressure on wage rates. Therefore, the price of labour relative to capital will be less. Industries will proceed to substitute labour for capital until their returns are equivalent. This will result in a larger number of individuals being employed but a lower wage rate. The estimation of this effect, however, is not possible because of the dissagregation problems associated with the labour market.

During the first few years, immigrants' propensity to consume is believed to be higher than that of native born or longer-term residents. Unfortunately, there are very few Canadian studies in this area. Australian studies, however, have shown that immigrants in their first year have a higher propensity to consume (89.7%) compared

to the national average (76.1%).²⁵ John Perkins²⁶ observed in Australia that immigration tended to raise the demand for consumer goods by a greater percentage than natural additions to the native population. This was found particularly true for housing, motor vehicles, other consumer durables, and imports. Over time, however, these differences were observed to gradually disappear until the immigrant population's consumption level and pattern were similar to that of the native population.

There are two Canadian studies that merit attention here. William Marr²⁷ argued that "migrants to and from Canada differ in many ways from the average Canadian (on the basis of a 1959 study of Immigrant Family Expenditure and Standard of Living) and that these differences affect aggregate consumption, imports, construction, and so on. As assimilation to the Canadian environment takes place, the differences are reduced, eventually disappear and the migrants' economic behaviour' becomes identical with the Canadian born."²⁸ Therefore, he cautioned: "Given that net immigration has a differential impact on the economy, this effect can not be overlooked in any policy of encouraging migration."²⁹

Another Canadian empirical study also supports the findings of Australian studies cited. According to Statistics Canada's 1971 study of Urban Family Expenditure on Shelter and Household Durables³⁰, when Canadian-born residents spent 25.4 per cent of their net income before taxes on shelter and consumer durables, the immigrants who came in

1969-70, spent 28.1 per cent of their net income on such items. This percentage declines to 27.8, 25.6 and 25.5 for immigrants who came in 1966-68, 1961-65 and 1956-60 respectively.³¹ Even more interesting is the finding that these expenditures varied significantly between immigrants by country of origin. Immigrants from U.S.A. and Europe used between 21 and 29 per cent of their net income on shelter and consumer durables while immigrants with origins in Asia, Africa, Latin America and West Indies (reflective of current immigration patterns) spent between 27 and 37 per cent of their net income on these.³²

V. Other Considerations

There are other factors which do not render themselves easily to analysis, such as the entrepreneurial ability of immigrants. The immigrant entrepreneurs, both those who came under the business immigration program and others who became entrepreneurs either because they cannot find employment in their intended occupations or because they wanted to become self employed, are well known to have added new jobs to Canada's economy. As Joseph Schumpeter pointed out decades ago: "The immigrant entrepreneur may innovate: the introduction of a new good or a new quality of a good, the introduction of a new method of production, the opening of a new market, the usage of new source of supply of raw materials and industrial organization".³³ These effects of the arrival of immigrants are difficult to ignore since "immigrants are not a random sample of any population ... They are the people with enough drive and determination to leave their native land, to take a tremendous leap, and to seek their fortune in a strange land."³⁴

It is not easy to speculate on whether the native-born have been 'crowded out' by more entrepreneurially-oriented immigrants. Despite this caveat, it seems that immigrants have contributed more than their proportionate share in establishing businesses in Canada. This observation is based on the following sources of information:

1. The 1961 census showed that among the native-born males of the experienced labour force 7.4 per cent were employers vis-à-vis 8.3 per cent for immigrants who came during 1946-50.³⁵
2. "The Canadian Who's Who" ³⁶ of 1964-66 ("in which no one has paid for inclusion") where "notable men and women" in the realm of Commerce and Industry including Construction are listed, 25.6 per cent were foreign-born compared to 15.6 per cent of such origins in the total population in 1961.³⁷
3. Immigrants represent about one-fifth of all self-employed persons in unincorporated businesses in Canada according to the 1981 census as compared to 16 per cent in the total population.³⁸

In summary, during 1983-84, it is possible that immigrants may have generated more employment than they took in Canada. And if the composition of immigration - in terms of age, immigration class (especially business and labour market related immigration), labour force participation rates and propensity to consume remain the same,

the employment generation potential of immigration could be true for even higher levels of immigration. There is no suggestion, however, that the best possible solution to Canada's unemployment problem is to drastically increase the number of immigrants allowed into Canada each year. Nevertheless, it does raise the perplexing question of how to determine the optimal immigrant inflow which maximizes the economic, demographic, and multicultural aspects of immigration. In the mean time, however, the above analysis leads us to conclude that immigration should be seen in a more positive light in regard to its effect on employment.

FOOTNOTES

- 1 Samuel T.J., "Economic Adaptation of Refugees in Canada: Experience of a Quarter Century", International Migration, Vol. XXII, No. 1, 1984, p. 47.
- 2 The econometric model TRACE was developed by University of Toronto economists, CANDIDE at the initiative of the Economic Council of Canada and RDX2 by Bank of Canada.
- 3 Davies Gordon W., Macroeconomic Effects of Immigration: Evidence from CANDIDE, TRACE, AND RDX2, University of Western Ontario, London, 1976, p. 6.

The following table provides a summary of results from Davies' simulations using the three models .

<u>Unemployment Rate Average, 1961-1974, According to the Level of Net Immigration</u>			
<u>Model</u>	<u>Level of Net Immigration Per Year</u>		
	<u>0</u>	<u>100,000</u>	<u>200,000</u>
CANDIDE	4.91	6.08	7.39
TRACE	3.54	4.85	6.59
RDX2	5.22	7.22	9.67

- 4 Informetrica, Macroeconomic Effects of Immigration, Ottawa (mimeo) 1978.
- 5 Rao, Someshwar P., Macroeconomic Effects of Demographic Variables: Evidence from the Candide Model 2.0, Economic Council of Canada, (mimeo), December 1980.
- 6 Robertson Matthew and Arun Roy, 'Comment', Canadian Public Policy, July 1982, p. 3.
- 7 Marr, William L., Labour Market and Other Implications of Immigration Policy for Ontario, Ontario Economic Council, Toronto (mimeo), 1976.
- 8 Grant Dwight, Alice O. Nakamura and Masao Nakamura, "The Macroeconomic Impacts of Immigration Policies". Paper presented at the Conference on Multiculturalism and Third World Immigrants in Canada, Edmonton 1975.
- 9 Ibid., p. 3.
- 10 Ibid., p. 30.

- 11 Motuz Carol, Return Migration: An Analysis of Return Migration from Canada: 1969-1974, Department of Manpower and Immigration (mimeo) p. 9.
- 12 Ibid., p. 131.
- 13 The 'courier parents' phenomenon is supposed to occur when a Canadian resident sponsors his/her parents to Canada. The parents are allowed to bring with them their unmarried children under 21. It is not an uncommon practise for the parents to come to Canada with their eligible younger children and then return home within a few months without these children. There are no studies indicating the extent of this practise.
- 14 In the longer term, it should be mentioned that the labour force participation rate of immigrants rises.
- 15 Nielson Soren T., Economic Effects of Immigration, (mimeo), 1970, Appendix B, pp. 2-3.
- 16 Richmond Anthony H., Comparative Studies in the Economic Adaptation of Immigrants in Canada, Institute of Behavioural Research, York University, Toronto, 1981, p. 30.
- 17 Employment and Immigration Canada, Background Paper on Future Immigration Levels, Ottawa, 1984, p. 29
- 18 Roy Arun, A Preliminary Report on Employment Impacts: Study of Employment Impacts of Alternative Government Initiatives and Related Evaluation Criteria, Employment and Immigration Canada, Ottawa, 1984.
- 19 Ibid., p. 2.
- 20 Vanderkamp, John "The Effect of Out-Migration on Regional Employment", Canadian Journal of Economics Vol. III, No. 4, November 1970.
- 21 Ibid., p. 542.
- 22 Ibid., p. 541.
- 23 Ibid.
- 24 Parai Louis, The Economic Impact of Immigration, Canadian Immigration and Population Study, Manpower and Immigration, Ottawa, 1974, p. 21.
- 25 Sheehan P.J., "Immigration and the Macroeconomy: Some Empirical Results" in Douglas Daryl (ed.), Australian Economic Papers, Vol. 6, No. 9, 1967, p. 147.

- 26 Perkins John, "Immigration and Consumer Demand" in Ibid., p. 84.
- 27 Marr, William L., "Act Inward Migration and the Canadian Economy 1950-1987", The American Economist, Vol. XX, No. 1, Spring 1976, pp. 51-58.
- 28 Loc. cit., p. 51.
- 29 Ibid., p. 57.
- 30 Statistics Canada, Urban Family Expenditure on Shelter and Household Durables, 1971, Catalogue 62-540 Occasional, Ottawa, 1974.
- 31 Ibid., pp. 36-37.
- 32 Ibid., pp. 34-35.
- 33 As quoted by Marr William, Labour Market and Other Implications of Immigration policy for Ontario, Ontario Economic Council, Toronto (mimeo), 1976, p. 25.
- 34 North David S. and William G. Weissert, Immigration and the American Labour Market, Transcentury Corporation, Washington, D.C. 1973, p. 163.
- 35 Kalbach, Warren, The Impact of Immigration on Canada's Population, DRS, Ottawa, 1969, p. 25.
- 36 Nielsen Soren T., Economic Effects of Immigration (mimeo) 1970, Appendix B, pp. 2-3.
- 37 Ibid.
- 38 Ahamad Consultants Inc., An Analysis of Self-Employed Immigrants Using 1981 Census Data, Ottawa, 1985, p.1.